Chips Barry, Manager

March 1, 2006

Board of Water Commissioners
City and County of Denver
Denver, Colorado 80204-3412

Re: Denver Water 2006 Budget

To Our Customers and Other Interested Readers:

On December 14, 2005 the Board of Water Commissioners adopted Denver Water's budget for 2006. This budget reflects our two principal commitments to our customers: to provide an adequate and reliable supply of high-quality water and to develop additional supplies for the future.

After a multi-year drought and a series of watershed-damaging forest fires, 2005 was a year in which Denver Water saw marked improvements in its reservoir levels. The diligent efforts of our customers to reduce their water consumption, together with a combination of cool and wet weather, good soil moisture content, healthy stream flows, and reduced customer demand, resulted in a total reservoir capacity of just over 96 percent, slightly more than the historical average peak of 94 percent.

On the demand side, water sales were lower than expected in 2005 at approximately 20 percent below historical norms. These reduced sales, coming during a period without drought restrictions or surcharges, raise the very real possibility that Denver Water's customers are reducing their long-term demand patterns and that the utility must be prepared to meet the challenges such changes could bring.

What remained unchanged last year were the utility's operational realities: fixed costs, a substantial set of maintenance tasks, and a customer base that has grown at an annual rate of 1.45 percent and is expected to increase by approximately 3,000 customers in 2006.

Recognizing the impact of reduced water sales, Denver Water trimmed costs in 2005 by streamlining operations, deferring maintenance when possible, limiting hiring, and carrying out other measures to reduce spending as much as possible.

Yet the utility also kept a series of significant capital projects on schedule last year, including the completion of the first phase of the Recycled Water distribution system, the start of construction of the Gross Reservoir hydroelectric project, the design of several key water-distribution system additions, the rollout of improvements to its water-treatment capabilities, and the continuance of work related to the Moffat Collection System Project. It also implemented a number of capacity-planning, conservation, and efficiency efforts that will ultimately improve its ability to serve an increasing customer base more reliably and efficiently.

Looking forward, Denver Water's future will likely be characterized by more climate-based volatility, reduced consumption, and gradual growth in the customer base. If anything, continuing to promote the water-conservation ethic established by customers during the drought will help the utility meet the demands of a growing customer base.

Considering these realities, the utility is making numerous changes of all kinds, for the short and long term. From a financial perspective, it is adjusting the 2006 budget and continuing to analyze costs, add spending controls and improve efficiencies across the organization. For the longer term, it has recalibrated its 10-year

water-sales forecasts and the cost-planning models on which they are based to lower water-sales projections in anticipation that customers will consume less and conserve more.

Denver Water is also making some other important changes to broaden and deepen its long-term fiscal health. Key to those efforts is the restructuring of the utility's water rates, the reevaluation of financial- and operational-planning models, and the strengthening of its cost controls and accountability mechanisms so that it can continue to manage and maintain an adequate and reliable water supply for its customers, carry out its most critical capital and operational projects, and maintain the flexibility to contain costs in the event of another drought or an unforeseen circumstance.

In other arenas, the utility is strengthening ties with its customers and those communities in which its watershed are located. It is also developing methods for communicating and engaging with customers quickly, easily, and effectively in the event of unforeseen circumstances. And it is continuing a dialogue with West Slope communities to solidify its ability to meet its supply-related needs, support reasonable socio-economic objectives of West Slope communities, and provide long-term protection to watersheds in which it operates.

I have outlined some of the more significant efforts related to meeting the challenges of the utility's future in the goals and objectives section below.

2006 Goals and Objectives

Advance an Aggressive, Sophisticated Program to Promote Water Efficiency and Wise Water Use

Water restrictions and a strong conservation message helped preserve precious water during the drought of the past several years. Building upon the insights we gained during that time, we will shift the focus of our day-to-day operations from short-term conservation to permanent water efficiency and wise water use.

To this end, we will work to develop a program of best practices that help our customers to adopt water-efficient behaviors. In conjunction with a program of year-round incentives and rebates, irrigation audits, and demonstrations, we will develop a strong communication plan with a clear message that will convey to our customers the importance of adopting wise water practices even when no drought exists.

Deepen and Broaden the Utility's Fiscal/Physical Health in the Wake of the Drought

As Denver Water weathered the drought, we were able to quickly respond to revenue uncertainties by holding vacant positions open, delaying capital projects, drawing from financial reserves, and reducing operating costs where possible. Now we will design a rate structure that communicates our water efficiency strategy to our customers and allows us to remain fiscally sound. We will also structure our financial-planning efforts so that we can continue to carry out our most critical capital and operational projects while maintaining our flexibility to contain costs in the event of another drought or an unforeseen circumstance.

Refine our Comprehensive Major-Crisis Response Plan

In the event of a terrorist attack, natural disaster, or public health crisis such as an avian flu outbreak, Denver Water will protect the public by continuing to provide a safe, reliable supply of drinking water. In anticipation of such an event, we will refine our plans which define the functions critical to providing that supply. We will work to ensure our staff is cross-trained in critical areas so that we can continue to perform our core functions in the event that a significant number of employees are unable to report to work.

Continue Compliance with Safe Drinking Water Act and Other Regulations

We will continue to monitor the regulatory environment and plan for new and more stringent regulations related to drinking water so that we will be prepared when new rules are promulgated. We currently anticipate forthcoming regulations related to disinfection by-products, copper, and lead. By closely monitoring the industry

and communicating with the appropriate federal authorities, we will ensure that we will be ready to comply with new regulations and provide the highest-quality drinking water to our customers.

Advance Technology Solutions that Promote Communication, Accountability, and Flexibility

In 2006 we will continue our multi-year effort to implement new technologies to help achieve our customer service, financial, and operating objectives. We will continue to implement the new Customer Information System (CIS). Once completed, this system will make it easier for us to track the history of our customer's accounts and provide the flexibility to alter rate structures to achieve our demand-management and revenue objectives.

In addition to the CIS, we are involved in a number of other technology initiatives that will help reduce costs, improve efficiencies, and promote accountability. Our mobile workforce automation project, for example, will provide the tools for us to dispatch, route and track our field personnel. This capability will improve response times and our ability to handle work more efficiently as our customer base continues to grow.

Provide Leadership in Metropolitan and Statewide Water Initiatives

Water supply concerns continue to be prevalent among Front Range and Western Slope communities. We will investigate a wide variety of water-supply solutions for ourselves and work in cooperation with others on their water supply development plans. We will also continue our cooperative efforts to strengthen a Front Range political water coalition as we seek common ground on acceptable Basin-of-Origin proposals and other relevant legislative or administrative actions. We will continue our leadership role as Colorado River water users in Colorado River Compact matters.

Continue a Capital Program that Provides a Reliable Water System at the Lowest Possible Cost

In 2006, Denver Water will direct our capital-planning efforts toward completing projects delayed during the drought. Specifically, we plan to continue to extend recycled water service as appropriate to promote the right use for the right water. In the coming year, we plan to begin work on recycled water storage and pumping facilities at our Capitol Hill and Montclair locations to enable recycled water service extensions.

We will also work to complete the Gross Dam Hydropower Unit as required to maintain our Federal Energy Regulatory Commission (FERC) license. As this project is under construction, we will continue to explore innovative financing options, such as interest-free energy bonds and tax-credit exchanges which may reduce costs to ratepayers.

2006 Budget

Receipts

Denver Water's total receipts are budgeted to be $252.6 million, an increase of $20.0 million over the 2005 budget.

Receipts from water sales are projected to be $164.3 million and reflect the lessons learned during 2005. Our projection for water sales is based on the assumption that the demand for water sales will be 19 percent below the historical norm. This figure is 8 percent lower than the assumption used to project water sales receipts for the 2005 budget. Receipts from the sale of water comprise approximately 65 percent of the total budget for 2006. The projected water sales revenue also includes an average 8 percent rate increase that went into effect on January 1, 2006.

System Development Charges (SDCs) — the fee that builders pay to connect new or expanded developments to Denver Water's distribution system—are expected to total $25.6 million in 2006. The increase reflects a slight growth (1.1 percent) in the level of tap sales and assumes an average SDC rate increase of 8 percent. The SDC increase is likely to go into effect in April. The dollars received from participation projects— costs paid by distributors for distribution facilities— are also expected to increase from $1.9 million in 2005 to $5.0 million in 2006. The increase is primarily due to a contract with Valley Water and Sanitation district.

Debt Service proceeds are budgeted to be $40.0 million. However, a capital financing strategy review is underway that may influence the actual amount.

Operation and Maintenance

Operation and Maintenance expenditures are budgeted at $116.8 million, $4.5 million more than 2005 expenditures.

The majority of the budget increase is due to increases in fuel, chemical, and employee health benefit costs. The effects of Hurricane Katrina and other factors on the national economy have driven up the price of fuel. For example, the 2005 budget assumed 462,000 gallons of fuel at a price of $1.55/gallon for a total of $716,000; the 2006 budget assumes an average per gallon fuel price of $2.65/gallon for the same amount of fuel resulting in a fuel budget that is $508,000 higher.

The hurricanes of 2005 and high demand pressures in new markets such as China will likely to drive up the cost of water-treatment chemicals. In 2006, we anticipate increases as high as 25 percent in the costs of chemicals such as liquid alum, ferric sulfate, and flourosilic acid.

Capital Expenditures

The 2006 Capital Expenditure budget is $97.5 million. This number is $27.5 million more than expenditures for 2005. As described above, many projects delayed in 2005 due to mid-year revenue uncertainties are scheduled to begin in 2006. The Capital Plan reflects a focus on completing several of these large projects.

The 2006 budget consists of 279 individual Capital Projects. Forty of these projects comprise 80 percent of the Capital Expenditures budget. There are 20 projects of $1.0 million or more scheduled for 2006.

Number of Employees

The number of authorized regular full-time employees will decrease by 16 (1.5 percent) to 1,080 in 2006. This number represents a 100 percent staffing level however the 2006 budget contains a 3.5 percent vacancy rate which means that of the 1,080 authorized positions. We estimate that 1,042 will be filled at any given time.

Payroll and Benefits

Budgeted payroll for 2006 is $65.5 million, $3.1 million or 5 percent more than 2005 expenditures. The budget includes decreasing the payroll for vacancy savings, the elimination of the 16 positions mentioned above, the filling of some of the remaining 2005 vacant positions, and an average budgeted pay increase of 2.6 percent.

Employee benefit plan costs are budgeted at $32.2 million for 2006, an increase of 5 percent from 2005 estimates. The increase is primarily attributable to the costs of health insurance for employees. Employee contributions to health care, which will partially offset this expense, will also rise an average of 15 percent in 2006. In addition, the organization is seeking to reduce total health costs through our health clinic, fitness center, and wellness programs.

Debt Service

Debt Service and related costs for 2006 are budgeted at $47.4 million.

The Year 2005 in Review

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Water Resource Management

Despite a below-normal snow pack, Denver Water's reservoirs were 97 percent full by July. Yet mindful of the multi-year impact of the drought, the utility took several steps to continue its message to manage their water use conservatively. Those efforts included:

- Summer Water Use Program. In 2005, the Board made permanent the rule of no watering between 10:00 am and 6:00 pm. It also encouraged voluntary compliance with a three-day per week watering schedule throughout the summer.

- Car Wash Certification Program. In cooperation with industry representatives, Denver Water continued its Car Wash Certification Program to promote efficiency guidelines for car washes and to achieve additional water savings. In 2005, the 240 commercial car wash operations certified under this program generated 312 acre-feet of annual water savings.

- Mass Market Advertising. In print, over the air, and online, Denver Water continued to educate customers about water availability, wise water use, and the need to conserve water on an on-going basis. It also continued it efforts to educate customers about water rates and how their design helps recover the cost of its services. And the utility conducted important research—including a customer survey, focus groups, and advertising-campaign message testing—to help shape its future advertising and education campaigns.

- Youth Water Conservation Project. In April, Denver Water joined with the City and County of Denver, the Denver City Office of Sustainability, the Denver Botanic Gardens, and the Gates Foundation to launch a youth water conservation pilot project. Overseen by the Denver Department of Parks and Recreation, the project promotes water-conservation education through the creation of beautiful, drought-resistant gardens that reflect the native Colorado landscapes. The project focused on four sites in Denver: the Civic Center Park/City & County Building, the Highland Senior Center, the Park/Harvey Recreation Center, and the Parkfield Park/Montbello Recreation Center. Denver Water's share of the program's cost is $80,000.

- Water Wise Program. For six years, Denver Water has sponsored the WaterWise™ Resource Action Program in the Denver Public School system and suburban school systems in the Denver Water service area. Using a curriculum designed for fifth-grade students, the program encourages water conservation in the home and includes kits with water saving devices such as shower heads and kitchen and bathroom aerators. The students install the devices with the help of their parents in their own homes. They then measure water savings.

- Other Water-Saving Incentive Programs. Denver Water's commercial/industrial incentive program rewards companies and organizations for reducing water use. Not only does this approach provide an incentive for customers to use water more efficiently and lower their bills, it helps free up relatively low-cost water that can be used to supply water to future customers and postpone the construction of new water-supply projects.

Denver Water negotiates efficiency contracts with commercial and industrial customers—in essence buying back their saved water. The current price paid for water savings is $4,500 per acre-foot—about 326,000 gallons—with a total payment not to exceed $40,000 for a given project. To date, 68 participants in these programs have saved 607 acre feet, or 198 million gallons of water per year.

Denver Water currently has seven active irrigation efficiency contracts, which saved approximately 89 acre-feet—29 million gallons—of water during the 2005 irrigation season. The utility also has an online program to track cooling-tower efficiency.

Capital Construction

Despite the financial challenges caused by the drought, Denver Water kept a number of significant capital projects on track in 2005 and worked to accelerate others to satisfy the projected long-term demand of its customers. These projects will improve the utility's ability to serve more customers more efficiently.

- Recycled Water Distribution System Expansion. In 2005, Denver Water began designing several key additions to expand its distribution system for recycled water. When complete, these additions will include a new 6 million gallon basin at Capitol Hill in central Denver and a new pump station at 11th & Quebec in East Denver. The basin and pump station will feed new conduits serving the redeveloped areas around the former Stapleton Airport and Lowry Air Force Base. Construction of these additions is scheduled to take place in 2006 with a completion target of 2007 at an estimated direct cost of $14.6 million.

- Recycled Water Plant - Solids Drying Bed. In August, the Board authorized the construction of a solids drying bed for the Recycled Water Plant. The project's cost is significantly less than the cost of the current method of having Metro Wastewater Reclamation District dispose of the solids. The project is under construction and is scheduled to be completed in early 2006 at a direct cost of just over $2.7 million.

- Foothills Treatment Plant - Flocculation Improvements. *Flocculation* is the process of slowly mixing coagulated water to create particles that are large enough to settle out or be trapped by filters. To meet regulatory standards, the Denver Water Foothills Treatment Plant uses chlorine to pre-treat potable water in its eight flocculation basins. Since that chlorine use began in 1990, the equipment in the basins—including paddle wheels, drive shafts, sprockets, ladders, landings, and handrails—has experienced significant amounts of corrosion. In September, the construction to replace them using materials more resistant to corrosion began. The project is scheduled to be completed in early 2006 at a direct cost of just over $2.3 million.

- Gross Reservoir Hydroelectric Dam. In 1950, the Federal Power Commission licensed the development of the Gross Reservoir by Denver Water as a municipal water source and a hydroelectric power project. Though the reservoir was completed in 1955, a hydroelectric facility was not installed.

In 2001, the Federal Energy Regulatory Commission issued a new 40-year license to Denver Water that required the construction of a power plant at Gross Reservoir. The hydroelectric project got underway in August. When complete, the plant will be a source of clean, renewable energy, with two 3.8 megawatt turbine generators capable of generating more than 25 million kilowatt hours per year. The power plant is scheduled to come online in 2007, with a direct cost $14.1 million.

- Eleven Mile Canyon Reservoir Outlet Works. The Eleven-Mile Canyon Reservoir was constructed in 1932. Its outlet works consisted of three valves that supported a minimum outflow capacity of approximately 40 cfs and a maximum outflow capacity of approximately 1,360 cfs. Today, Denver Water needs a wider range of flows to support its customers as efficiently as possible. In May, the Board approved the construction of a new outlet works of four valves that can support a minimum outflow capacity of approximately 3 cfs and a maximum outflow of approximately 1,870 cfs. The new outlet works is scheduled to be completed in May 2006 at a direct cost of $2.5 million.

- Conduit 153. In July, the Board authorized the construction of Conduit 153, a pipeline more than 2,000 feet long that runs from Happy Canyon Road to the Hillcrest Pump Station. The significance of the project is that it completes the partial replacement of Conduit 55, a pre-stressed concrete pipe identified as having a high probability for catastrophic failure. Denver Water has replaced approximately 13,000 feet of Conduit 55 since a failure of the pipe in the late 1990s. Conduit 153 is scheduled to be completed in January 2006 at a preliminary total cost of $2.3 million.

- Pipe Rehabilitation Program. Denver Water routinely rehabilitates older cast iron water mains and conduits in its distribution system. This rehabilitation process—which consists of cleaning the conduits and lining them with cement mortar or epoxy —ensures a consistent and uninterrupted supply of water to the utility's customers.

  Because of the financial impact of the drought, the utility suspended its pipe-rehabilitation program in 2003 and 2004. Due to the importance of the program to its facilities, the utility resumed rehabilitating the most critical conduits in 2005. These conduits included those that were installed between 1890 and 1940.

  The utility rehabilitated approximately 27,000 feet of distribution mains and conduits in 2005 at a total cost of $2.3 million.

- Vault Construction & Rehabilitation. Water utility vaults are underground rooms, often found below surface streets, which house valves and other sensitive water-control instruments. Over time, below-ground moisture can corrode a vault's metal walls, making it a safety hazard.

  During the past eight years, Denver Water has focused on construction of new projects, mostly related to water treatment or recycled water. With many of those projects complete, the utility is now focused on maintaining and performing minor upgrades to other components of its water-distribution infrastructure, including vaults. It spent

approximately $1.7 million on vault construction and rehabilitation in 2005 and much of its engineering effort over the next several years will concentrate on these types of projects.

System Capacity Expansion

Denver Water is always looking to meet the needs of its customers as efficiently as possible. To that end, it engaged in a number of efforts in 2005.

- Moffat Collection System Project. Denver Water continued work on an environmental impact statement (EIS) for the Moffat Collection System Project. The EIS is the first step in a process to seek authorization from the U.S. Corps of Engineers for the construction of the project. The project would provide 18,000 acre-feet of new water, before any possible participation, and would help meet projected near-term demand for treated water. It would also reduce vulnerability, reliability, and flexibility problems related to the utility's water delivery which can, in part, be attributed to insufficient water supplies available to the Moffat plant. A draft EIS is expected to be published in early 2007.

- Antero Reservoir Expansion. Denver Water plans to work with the City of Aurora and Park County Commissioners to initiate a study on the possible expansion of Denver's Antero Reservoir in Park County.

- YMCA Building Purchase. In July, Denver purchased the YMCA property across from its Moffat Treatment Plant. With the new property, the utility can construct a reservoir to store as many as 15 million extra gallons of clear water.

  As a general rule, clear-water storage is sized to serve 15-30% of a treatment plant's capacity. Clear water storage at the Moffat Treatment Plant is currently at approximately 10% of the plant capacity, but with the purchase of the new property there is the potential to bring that figure to 18% and allow a more flexible plant operation. With economies of scale, the cost-per-gallon to construct the additional storage at the YMCA facility is half that of constructing a smaller clear-water reservoir on the Moffat site. The purchase price of the new site was $2.8 million. The new storage infrastructure is planned to come online in 2009.

Continuing Conservation, Property Management, & Outreach

Conservation is key to Denver Water's ability to provide water to its customers and the utility makes substantial efforts in that regard. In 2005, these efforts included:

- Xeriscape Program. A significant part of Denver Water's conservation effort involves encouraging customers to Xeriscape, a method of landscaping that reduces the need to irrigate. The savings can be significant: a recently completed study entitled "Yield and Reliability Demonstrated in Xeriscape (YARDX)" by the U.S. Bureau of Reclamation and several Colorado Front Range water providers showed that Xeriscape efforts reduce

outdoor water use by three to 63 percent—and that Denver participants in the study showed water savings of 28 percent.

In 2005, Denver Water continued to encourage customers to Xeriscape. More than 1,165 people attended free Xeriscape seminars and more than 29,635 people visited Xeriscape exhibits at the Denver Garden and Home Show, ProGreen Expo, and other expositions. And Denver Water arranged for more than 190 people to have a private session with a landscape architect to design or redesign their existing landscapes into Xeriscapes.

Additionally, the conservation section of Denver Water produced a brochure entitled "Xeriscape Beautiful by Design: Three Plans for a Plant Select® Garden." Plant Select is a joint program of the Denver Botanic Gardens and the Colorado State University Horticulture program, emphasizing plants that are hardy for this region and are widely available for purchase.

- Habitat Restoration. In 2002, multiple wildfires struck Colorado. The worst was the Hayman fire, which burned for 40 days and consumed 137,760 acres, including 7,043 acres at Denver Water's Cheesman Reservoir.

  Because the fire stripped vegetation from such a large area, there is an increased risk for sediment washing into the Cheesman and Strontia Springs Reservoirs. To help mitigate that risk, Denver Water is engaged in a long-term habitat restoration program on its lands at the reservoir and in the South Platte corridor. In 2005, those efforts included tree planting in conjunction with the Colorado State Forester's Office at a cost of $40,000. It also included the removal of more than 40,000 cubic yards of material from two sediment traps on feeder creeks into Cheesman Reservoir; $200,000 was budgeted for this work.

  Denver Water estimates that it will take several decades or longer for the lands burned around the Cheesman reservoir to fully recover from the effects of the Hayman fire.

- South Platte Protection Plan. In 2004, the U.S. Forest Service approved a proposal by Denver metro-area water utilities, local governments, state agencies, environmental interests, and basin residents for a South Platte Protection Plan (SPPP).

  The SPPP is a local alternative to a federal Wild and Scenic designation of the South Platte River. Its purpose is to protect the environmental and recreational values identified by the U.S. Forest Service along portions of the South and North Forks of the South Platte River corridor. It provides a flow-management plan and potential alternatives to the development of water rights within this reach, something that the federal alternative did not include.

  A principal feature of the plan is an agreement establishing the South Platte Enhancement Fund, a donor-advised fund of the Denver Foundation. The earnings from the $1 million endowment will be used to protect and enhance the important resource values.

  In May, the Board authorized Denver Water's initial contribution to the enhancement

fund of $200,000 for the year 2005. The utility has committed to contributing $500,000 over a three-year period to the fund; the local governments and other water providers on the Front Range will be providing the other $500,000. The amount of money that is contributed to the endowment fund is based on the number of water taps in each entity's service area.

- Four Mile Ranch Source Water Protection Project**.** Working in conjunction with members of the South Park Wetlands Focus Area Committee—including the U. S. Fish and Wildlife's Partners for Wildlife program, Colorado Open Lands, the U.S. Bureau of Land Management, and the Colorado Division of Wildlife—Denver Water has finished a source water protection project at its Four Mile Ranch in South Park. The project restored five miles of stream habitat along Four Mile Creek.

  Prior to Denver Water purchasing Four Mile Ranch in 1976, the affected section of Four Mile Creek was made into a channel, probably for agricultural reasons. Over time, this channelization led to erosion and incision of the creek bed. This project, completed in the spring of 2005, has restored the natural hydrology of the stream system.

- Four Mile Ranch Fen Project**.** Denver Water is working to acquire wetland mitigation credits through its Four Mile Ranch Fen (wetlands) Project. These credits, if granted, can be used to offset impacts from construction of water projects within Park County.

  The utility has completed three field seasons of data collection and will continue to monitor the project area for the foreseeable future. A prospectus and a mitigation banking agreement has been drafted and will be submitted to the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers for approval. The approval process is expected to take at least a year.

- Chatfield Wetlands Project**.** Denver Water is currently coordinating with Colorado State Parks, Lockheed Martin, and the U.S. Army Corps of Engineers to ensure that, per an existing agreement, the utility will receive 12 acres of wetland credits that can be used to offset impacts from construction of water projects within the Wetland Credit Service Area of the Front Range.

- Outdoor Education Programs. Working with a variety of local, state, and federal agencies as well as interested businesses, Denver Water is supporting responsible stewardship of the environment. A foundational element of this effort is the utility's Bob Taylor Ecological Complex in Kassler.

  Kassler is at the crossroads of recreational, educational, environmental, and historical abundance. Denver Water makes its facilities and property available to organizations that provide conservation- and environment-related education. In 2005, the complex hosted outdoor-education classes for children, bird banding and bird-counting programs, angler education classes for inner-city children, recreation programs for troubled youth, and the utility's *Take a Family Fishing* event.

- State Forest Service Contract. Denver Water contracts annually with the Colorado State Forest Service for forest management of its mountain properties. In addition to emergency fire suppression, the Forest Service manages a program to thin forest areas, creating small meadows and open areas to replicate natural growth patterns. This thinning helps reduce the potential of catastrophic fires and to create better habitat. In a study published in 2004, the effectiveness of this program was highlighted by the 14-fold increase in the numbers of the Pawnee Montane Skipper, a federally listed threatened butterfly, over the five-year period since the program was instituted in the Trumbull area near the South Platte River. The cost of the Forest Service contract is $100,000.

- Lawn Return Flow Adjudication. In 2005, Denver Water completed a five-year engineering analysis of the timing, location, and amount of return flows of water from outdoor uses in its service area into the South Platte River. A final engineering report was produced in mid-2005.

  The importance of these return flows is significant. Outdoor uses of reusable water are expected to generate more than 10,000 acre-feet of return flows—more than 3.2 billion gallons of water. This water would be available for use throughout the system and could support or supplement non-potable uses for which raw water deliveries are not available or preferred.

Information Technology Revitalization

Working in consultation and cooperation with other divisions of Denver Water, the Information Technology division delivers hardware, software, and technical support services across the organization to improve operating efficiencies and enhance decision-making capabilities.

In 2005, Denver Water continued the revitalization of its information-technology infrastructure, a multi-year effort that will enable the utility to develop new information-sharing tools, increase operational efficiencies and reduce costs, and deliver entirely new kinds of in-person and online customer services.

Driving this revitalization is the reality that sharing information widely can drive down costs, reduce response times, and make Denver Water more nimble in its ability to respond to changing weather, water-consumption habits, and revenue projections. But the age of the utility's information infrastructure makes it increasingly difficult and costly to maintain, let alone to create new and innovative ways of sharing and delivering information.

Several projects were critical to the utility's revitalization effort in 2005, including:

- Customer Information System Project. To enhance its customer service capabilities and create greater operational efficiencies, Denver Water is in the midst of a process that will lead to rolling out a new customer information and billing system (CIS).

  By consolidating customer-related information, the new CIS will make it easier to track the history of a customer's account, from the sale of the original tap to the most recent

bill. This capability will serve as the backbone for a number of important information-driven initiatives, including monthly billing; expanded online, in-person, and voice-activated customer services; and personalized Web pages that let customers interact with Denver Water online (see below).

The CIS will also support new and emerging rate designs, drastically reducing the programming necessary to implement them. What's more, it will support a variety of mobile workforce-automation projects (see below).

The total direct cost to deploy the CIS system is estimated to be approximately $14 million.

- Monthly Billing. One of the most significant benefits of the CIS system is that it will enable the utility to move from a bi-monthly to a monthly billing cycle.

  For customers, monthly billing will let them monitor water-consumption habits more closely, spot leaks or over-utilization more quickly, and see and respond to the effects of consumption-based surcharges more immediately than they would with a two-month billing cycle.

  For Denver Water, monthly billing will help the utility to proactively spot unusual water-utilization patterns and deploy the necessary resources to address them. Monthly bills can also carry custom messages, letting the utility communicate important information to customer segments easily and routinely.

  In addition to the CIS system project, a number of initiatives are underway to create the technical underpinnings for monthly billing.

- Mobile Workforce Automation. As part of a multi-year project, Denver Water is implementing systems to automatically schedule, dispatch, and track the location of field employees. The first phase of these systems will come online in 2006 at an approximate cost of $1.25 million.

- New Telephone System. In 2005, the utility installed a new phone system that gave it the features and expandability it needs. This customer contact center supports e-mail and Web-based chat sessions as easily as it does traditional telephone-based services; enables customers to retrieve account-related information and take account-related actions using a touchtone telephone; can route a call to a live representative with the right level of experience—and ensure that all calls are distributed efficiently to minimize hold times; and consolidates several screens worth of information into one, helping representatives answer questions accurately and promptly.

  The new phone system came online in March of 2005 at a cost of $1.4 million.

- Customer Self-Service Using the Web. Today, many people use the Web to get personalized and secure services from a variety of businesses. Consider the book seller

that let buyers track orders online, or the brokerage house that lets account holders buy and sell stocks electronically. These *Web portal technologies* let customers view information that is unique and germane to them—all over a secure Internet connection.

In 2005, Denver Water began laying the technical groundwork to enable customers to use the Web to manage a variety of account-related tasks. One of the first of the Web-based services implemented in 2005 was a program that lets engineering firms and other groups review the status of and checklists needed to complete their proposed projects.

Other key activities necessary to support Web services in 2005 included improving the utility's communications network to handle increased demand, and deploying a new data backup and recovery system to streamline data archiving and retrieval.

- Leveraging Upgraded GIS Database. From water mains and valves to hydrants and treatment plants, Denver Water has tens of thousands of *fixed-position* assets which make up its water supply and distribution infrastructure. In 2002, the utility began a massive upgrade of its geographic information system (GIS) database to make the utility's operations more efficient.

  Denver Water continued to expand the breadth and depth of its GIS-based information in 2005. Key projects in this area included acquiring and refining parcel-related data throughout the utility's service area; capturing the geographic locations of customer taps, stop boxes, newly constructed distribution system facilities, and newly installed meters to streamline emergency-response and project-planning processes; and creating a tool to import standard-format engineering drawings directly into the GIS database.

Increasing Operational Efficiencies

From water meters that can report usage automatically to key information-system projects, technology is playing a pivotal role in boosting operational efficiencies at Denver Water. In 2005, these efforts included:

- Automated Leak-Detection Program. Denver Water has had a leak-detection program since 1980. As part of this program, technicians actively search for water leaks within the utility's distribution system using amplified listening devices. Finding a water leak before it becomes a main break conserves water, reduces repair costs, and eliminates unscheduled outages.

  In 2005, Denver Water continued its deployment of new technology to make the leak-detection process even more efficient. Currently, 415 logging devices are deployed and Denver Water has seen significant results. The devices, together with traditional leak-survey techniques, are enabling the utility to maintain leak losses around two percent, already among the lowest in the utility industry.

- Automated Meter Reading Project. In 2005, Denver Water completed a five-year effort to install automated water meters that can report usage via radio signals. All residential

meters have been equipped with radio-read AMR equipment. Conversion of large meters is more than 75 percent done, and will be completed in the third quarter of 2006.

Because of the prolonged drought, the utility accelerated its automated meter-reading program in 2004, and completed the 210,000 small-meter conversions nearly a year ahead of schedule. The project will eliminate approximately 30 meter-reading related staff and track water usage more precisely; it has already reduced the number of meter readers from 33 when the program began to 12 at the end of 2005.

- Large Meter Replacement Program. As part of its automated meter reading project, Denver Water launched a three-year, $9 million program in 2004 to replace approximately 3,800 large water meters. The meters, which range in size from one and a half to sixteen inches, cannot be retrofitted with a transmitter like newer residential meters. Yet over time, these meters tend to under-register the amount of water that passes through. By replacing them, Denver Water will have better information about the actual amount of water used by large-meter customers for consumption, conservation, and billing purposes.

  By the end of 2005, the utility had replaced 2,403 large meters.

Legal Issues

Some of the key legal issues addressed by Denver Water included:

- Lawsuit Regarding Denver Water Surcharges. On October 20, 2004, a group of Denver Water customers who reside in Denver sued the utility over the imposition of drought-related surcharges in 2004. In the litigation, the plaintiffs contended that Denver residents should be treated differently than suburban customers in a drought. On March 13, 2005, the court granted Denver Water's motion to dismiss the lawsuit. The court ruled that Denver Water's Board exercises discretion in deciding what limitations should be imposed and what surcharges should be established to ensure an adequate supply of water, and that judicial review of those decisions was not appropriate.

- Miccosukee Litigation. Water utilities nationwide often move water from one river or stream to another, usually as a means of conveying water to a treatment plant. Such activity mixes water from two sources that may have slightly different chemical composition. For more than 30 years, this activity has occurred without a National Pollutant Discharge Elimination System (NPDES) permit under the federal Clean Water Act (CWA).

  Recently, however, litigation in federal court has questioned whether mere conveyance of natural water from one source to another requires an NPDES permit. Several plaintiffs claim that such intermixing is a discharge under the CWA, and that if the incoming and receiving waters are different, it is discharge of a pollutant, even though the utility has added nothing to the water. As a practical matter, water conveyances in the West could not comply with NPDES permit requirements.

The law on this point is unclear, and a recent U.S. Supreme Court decision (South Florida Water Management District v. Miccosukee Tribe of Indians et al.) did not clarify the matter. Denver Water, other water utilities, and various national water organizations have organized a coalition to pursue whatever legislative, judicial, or administrative remedies might be required. The Solicitor's Office for the Environmental Protection Agency, which oversees NPDES permitting, has issued a formal opinion that such permitting does not apply to water conveyances. EPA now intends to undertake formal rulemaking to incorporate this legal conclusion into rules that would receive deference from the courts. The water user coalition will be actively involved in the rulemaking process over the next year.

Financial Diligence

Denver Water customers have some of the lowest water bills in the Front Range region. Through the use of long-range financial planning, water-rate adjustments can be phased in over time to alleviate the need for significant one-year water rate increases. In addition to forward-looking capital construction and capacity planning—as well as conservation efforts—wise financial stewardship plays an important role in keeping customer rates low. Several events highlighted the importance of that role in 2005:

- Annual Rate Adjustments. Consistent with its long-term financial plan, Denver Water raised rates for bills by an average of eight percent for all customer classes.

- New Usage Classification. To encourage conservation among high-usage customers, Denver Water created a new residential usage classification, or *block.* Under this classification, residential customers will pay a higher rate for any water above a threshold of 80,000 gallons in a two-month period, starting in 2006.

- Water Revenue Bond Sales. In May, Denver Water issued $30 million in water-revenue bonds to reimburse the utility for funds expended for capital projects.

- 10-Year Financial Plan. Denver Water remains financially strong despite the financial challenges brought on by the drought and fires. Part of that strength is the result of an annual evaluation of the utility's fiscal condition and the creation of a forward-looking 10-year financial plan. This plan carefully considers two kinds of risk: the need to complete current and future capital projects which will strengthen the utility's water supplies and the impact of continued reduced water sales.

  In the past, the 10-year financial plan was predicated on normal weather conditions: an assumption that, over a given decade, weather and water sales would be normal, though any given year could bring a variety of climatic conditions. As a result, Denver Water maintained financial reserves for low-revenue periods similar to those that may occur during drought or rainy years.

In 2004 and again in 2005, the utility applied the lessons learned and best practices developed from five years of drought to create a new kind of 10-year plan, one that recognizes that, even after a drought, water sales tend to remain at lower-than-normal levels, a phenomenon referred to as a *drought shadow;* and that it is in the utility's best interests to anticipate that customers will continue to adopt water-wise practices *even when no drought exists.*

Because the drought shadow and sustained conservation measures will keep water sales lower than normal, it is critical that Denver Water annually evaluate its 10-year financial plan in order to anticipate needed adjustments in rate levels, debt loads, and investment reserves to ensure that it is recovering the full cost of delivering water to customers. This approach will also enable the utility to complete various water-supply related construction projects without interruption, increase the maintenance-related tasks necessary to ensure the integrity of the utility's water-distribution system, and maintain a strong fiscal position.

- Rate-Design Group. In September, Denver Water formed a rate-design workgroup that will evaluate alternative rate structures for the utility and reach consensus on the best rate structure for the future. The charter of the group is to craft a rate schedule that can be implemented in early 2008 to coincide with the implementation of the new customer information system.

- Budget Adoption. In December, the Board adopted the 2006 budget. This budget anticipates water sales to be 19 percent below historical norms. By anticipating the reduced water sales, the utility has cautiously forecasted its annual revenue. As a result, expenditures have been examined and projected on a reduced basis. Consistent with the 10-year planning projections, $9 million in investment reserves will be used to help meet budgeted expenditures in 2006.